

SINCLAIR/TIMEX USERS MAGAZINE

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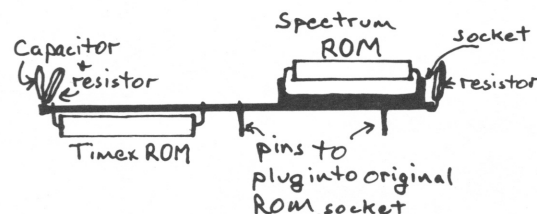
...and more!

Spectrum Emulator Revisited

In last month's article, we inadvertently left out the printed circuit board layout, so here it is this month with our apologies. Also I have drawn a side view showing how the chips sit on the board.

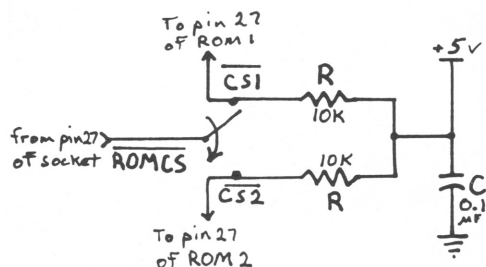
When installing the chips, always use great care in positioning the chips in the sockets. Generally, the width between the two rows of pins are wider than the socket spacing. To narrow the spacing, hold the chip with both hands, fingers holding top and bottom and press one of the rows of pins on their side onto a hard surface with the pins still in the protective foam. Carefully bend in both sides slightly until the chip is easier to fit into the socket. The outward bend of the pins help "force" a good connection to the socket, so don't over do it.

The foam is there to protect the chip from static discharges. Keep the chip in the foam as long as possible. Remember, the drier your climate, the more chance you have of



Front view of completed circuit board with both ROMS mounted.

...continued on next page



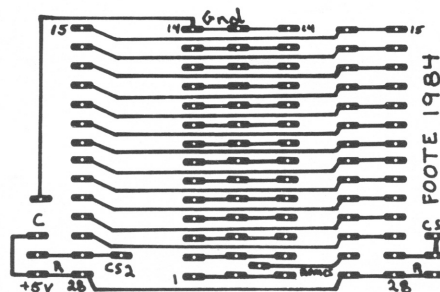
Schematic of Spectrum Emulator

static damage. Don't forget to protect the chips you take out such as the 2068 ROM. Your best bet is to stick it in the other side of the foam your new ROM is in. Also remember that in any work you do with any of your computers, you are working with static sensitive components; so be careful.

More software that we now know to work on the 2068 with the Spectrum ROM enabled include:

- Tutankhamun
- Teradacktil

- Penetrator
- Advanced Graphics
- Chopper Rescue
- Voice Chess
- ETX
- Code Name Mat
- Groucho



Printed circuit layout for Spectrum Emulator.

Sometimes the Spectrum ROM has a hard time initializing. You can tell from the start if it will or won't. If the screen BORDER initializes white then no problem should occur. If the BORDER initializes black, go ahead and turn off the computer and try again. For me, it has trouble initializing about 20% of the time.

--Joe Williamson

SUM

SINCLAIR/TIMEX USERS MAGAZINE

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SUM-WARE

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AlphaCom 32 Printer \$69⁹⁵

Timex Modem (2050) \$109⁹⁵

Zebra Light Pen \$27⁹⁵

Timex 2020 Recorder \$39⁹⁵

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TMK Color Monitor

The TMK monitor/TV (model #201b) is a low resolution 9" monitor and TV combination. The unit stands 13" by 10" wide and 13" deep. A set of switches on the front allow adjustments for contrast, brightness, color and tint, as well as auto-color and TV/monitor switching. It contains a turret style tuner for VHF and UHF stations. The rear has inputs for the tuner and separate audio/video jacks both in and out.

Using the monitor mode, the picture quality is excellent and even Tasword shows up quite well in 64 column mode when you turn down the color. While in the TV mode, the picture is degraded only slightly and still gives sharp characters.

The price is in the \$280-\$300 range and available at K-Mart and Skipper Electronics. Better quality color monitors are available at higher prices, but considering the price and picture quality, I would say that it is an excellent choice.

-- Joe Williamson

What To Do With That Computer

A common question asked owners of home computers is, "What can you do with that thing?" Many of us might answer "play games", "word processing", or "keep track of finances". Many of us probably leave the answer at that, purposely vague. The fact is, many home computers gather dust more than they process information.

While I admit that my own Timex 1000 sits idle much of the time, I do have at least one regular use for it. About once a month, after all my bank statements, credit card bills, and other information arrives in the mail, I use the computer to update an approximation of my net worth. To do this I use Vu-Calc. I have set up several columns, each for a type of

asset or liability, such as "short-term savings" or "long-term liabilities". Each row in each column is assigned to a particular savings account, loan, or item of real property. Each month, all I have to do is update current values or balances. The final column is used to summarize all the other columns by instantly calculating "total assets", "total liabilities" and the difference between the two: "net worth" (never as large as one would hope). As soon as I find a TS 2040 printer, I will make a hard copy each month to keep track of long-term trends.

This is just one example of how a Timex computer can be used to make everyday life a little easier and more interesting. It would be interesting to hear how other TUG members answer the question: "What do you use that thing for, anyway?"

-- Al Mollitor

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TS2068 SOFTWARE

The following programs all use a machine code generated spreadsheet format that makes them fast and reliable. It is suggested that a printer be used with the programs, but one is not required. For complete details on these programs please refer to the TS1000 section of this price list.

TAX RETURN ORGANIZER 2000	\$20.00
CHECKREC 2000	\$12.00
STOCK WATCH 2000	\$12.00
APPOINTMENT WATCH 2000	\$12.00
ADDRESS BOOK 2000	\$12.00
HOUSEHOLD INVENTORY 2000	\$12.00

TEXTWRITER 2000 by R. Fingerle \$18.95

A high capacity full color word processing program for the TS2068 and TS2040 printer. It is similar in design to the TEXTWRITER 1000, which has received excellent reviews in computer publications. The TW2000 includes all of the features of the TS2068; repeating keys, upper and lower case, audible prompts, fast text loading and saving, and a text capacity of 840 lines or about 450 words.

TEXTWRITER 2000 PLUS \$24.95

A program similar to the TEXTWRITER 2000 program above, but for use with the TS2068 and the ARCO Centronics interface.

THE GREAT GRAPHICS SHOW \$24.95

This package written by J. A. Coffey contains six excellent programs that will show off your TS2068 computer. Programs include: The Great Graphics Show, Touch Type Learning Package, Three Games Package, Hi-Res Lander, Oscilloscope, and Easy Editor. This package was rated 3 out of 4 by the Triangle Sinclair User's Group, 4/84 newsletter.

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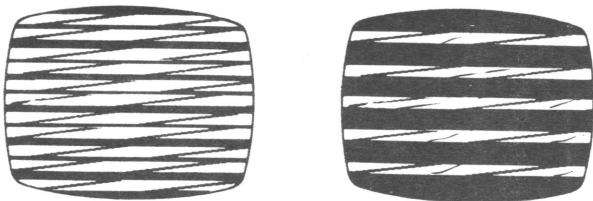
HAUPPAUGE, NEW YORK 11788

ZX/TS Repair Guide — Part I

This begins a series of articles on how to repair the problems that spring up with your ZX81 and TS1000. Sending off to have your computer repaired can cost as much as--if not more than--the original cost of the computer. The majority of the problems can be fixed by the average owner.

The first problem that I will cover is LOADING and SAVEing. If the computer works otherwise, 99% of LOADING/SAVEing problems lie in the cassette recorder you are using. The ZX/TS machines have one of the poorest (and slowest) ways of loading a program. You have no idea whether the program is actually loading or just passing what it thinks is garbage.

Most problems are caused by not having the proper volume setting while loading. One of the best ways of telling whether the program is loading or not is by watching the TV screen. The proper volume setting can be determined by watching the black and white lines on the screen during the more "steady scenes". The black lines should be slightly thicker than the white lines in between. On some sets with bad linearity, the lines may appear to get thinner towards the bottom of the screen (the display appears to be smaller towards the bottom as well). On these sets, try to watch the top few lines to make the black lines thicker than the white ones. That should give you proper volume for loading (typically around 3/4 of maximum volume).



Left screen shows volume too low; right screen shows correct volume.

The type of recorder is very important. Use only a standard type monaural recorder. Don't use stereo portables, home type units or micro-cassettes, they probably will not work. Your best bet is to use a good quality desk-top recorder which includes a tone control, tape counter, and its own power supply (generally in the \$35 to \$50 range). We have found that Panasonic recorders work with good results. Timex's works well and now Sears has a model out that looks identical to the Timex 2020 recorder.

Don't use a recorder from the closet that has been sitting collecting dust--it probably won't work. Have the recorder cleaned and belts replaced first before trying it. After sitting so long, the belts develop flat spots and cause an uneven speed, and dust can gum up the mechanism and cause the machine to eat your new tape. A recorder in good condition is a must.

Tone is another important factor to consider. If you have a tone control, be sure and place it in the highest position possible.

If after trying all this and it still won't load, disconnect the earphone jack and turn the volume down to a tolerable level and listen to a pre-recorded professional program. If it sounds dull and muffled, the head azimuth may be off or the heads dirty. Head azimuth is the angle of the tape data track with respect to the pickup on the head (should be parallel: zero degrees). For dirty heads, take cotton swabs and rubbing alcohol and gently clean the heads so that they appear shiny. If the heads are not dirty, the head azimuth should be adjusted.

A lot of tape recorders have a small hole right above the audio head (front center of cassette basket) which reveals a screw while in the play position. Play the tape and use a jeweler's screwdriver to turn the screw. You should hear the "muffledness" change. Adjust for the most "shrill" sound possible

(produces the most highs). If you don't have a head azimuth adjust hole, take it to a service center and have it done.

You should be able to now load without any problems. If not, play a tape and see if you hear any wavering or a stop and go type of sound. If you do, have it serviced, or buy another recorder (the motor may be going). If it sounds fine, then check all your connections, try another tape, have only the ear plug connected for loading and the mic plug connected for saving (remember, its ear to ear and mic to mic). If problems still persist, try another recorder on your computer or your recorder on another computer and ascertain which is the problem.

Once you have the loading of a prerecorded tape down, saving should also work. After you save a program, play it back with the mic plug out and make sure that something went onto the tape. If not, check your connections, and/or try another

recorder. If playback of a pre-recorded tape is fine but playback of your recorded tape is muffled, have the heads de-magnetized and cleaned.

Everything in this particular article also pertains to the 2068. Although loading problems do not occur as frequently, they still do occur with the color computer. Head azimuth is a little more critical due to the faster transfer of data. Tapes come to you with varying levels of quality and may have been recorded on a recorder with head azimuth slightly different than yours. Some hard to load tapes can be loaded by adjusting the head azimuth slightly.

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Finally, use a good quality tape (not the three for \$1 specials). And on the TS1000 make sure you are not trying to load a 16K program into a 2K RAM.

--Joe Williamson

NEXT MONTH: Inside the ZX/TS

Textwriter 2000 Plus — A Brief Review —

Textwriter 2000+--available for the 2040 printer at \$18.95; for the Aerco interface at \$24.95.

Bob Fingerle's TW2000+ is a menu driven word processor with word wrap for the TS2068. The menu consists of seven items:

1. initialize colors
2. load a file
3. start a new file
4. save a file
5. display file
6. printing single space
7. printing double space

Most of the items are self explanatory. #1 allows you to set paper and ink colors on your screen. #6 & #7 helps format your text for your printer. The Aerco interface which I am using lets you use either the 2040 or an 80 column printer.

To me the most important feature is the "Goof" command. If you accidentally BREAK, then you type GOTO 9000 and your menu and text returns. Type #5 on the menu, the line number you wish and continue typing as if nothing had happened.

TW2000+ in EDIT mode will center text, add spaces, lines or single characters, move blocks of type, delete text, or repeat blocks of type as many times as needed.

Here is a shopping list of what I would like to see added to this good program: right justification, imbedding of printer commands, re-naming (so you can use all or part of a text under a different name), 64 columns on the screen, and a means of adding characters easily without overtyping your text (now

you must add your spaces manually).

In conclusion the TW2000+ is the most user-friendly word processor for the money for the TS2068. I have been using mine for six months, driving a Spirit 80 printer, to produce articles, letters, etc.

-- Bill Woodward

Bob Fingerle, 39639 Embarcadero, Fremont, CA 94538.

A FULL TEST OF TW2000+ WILL APPEAR IN THE OCTOBER ISSUE OF S.U.M.

Users Group News

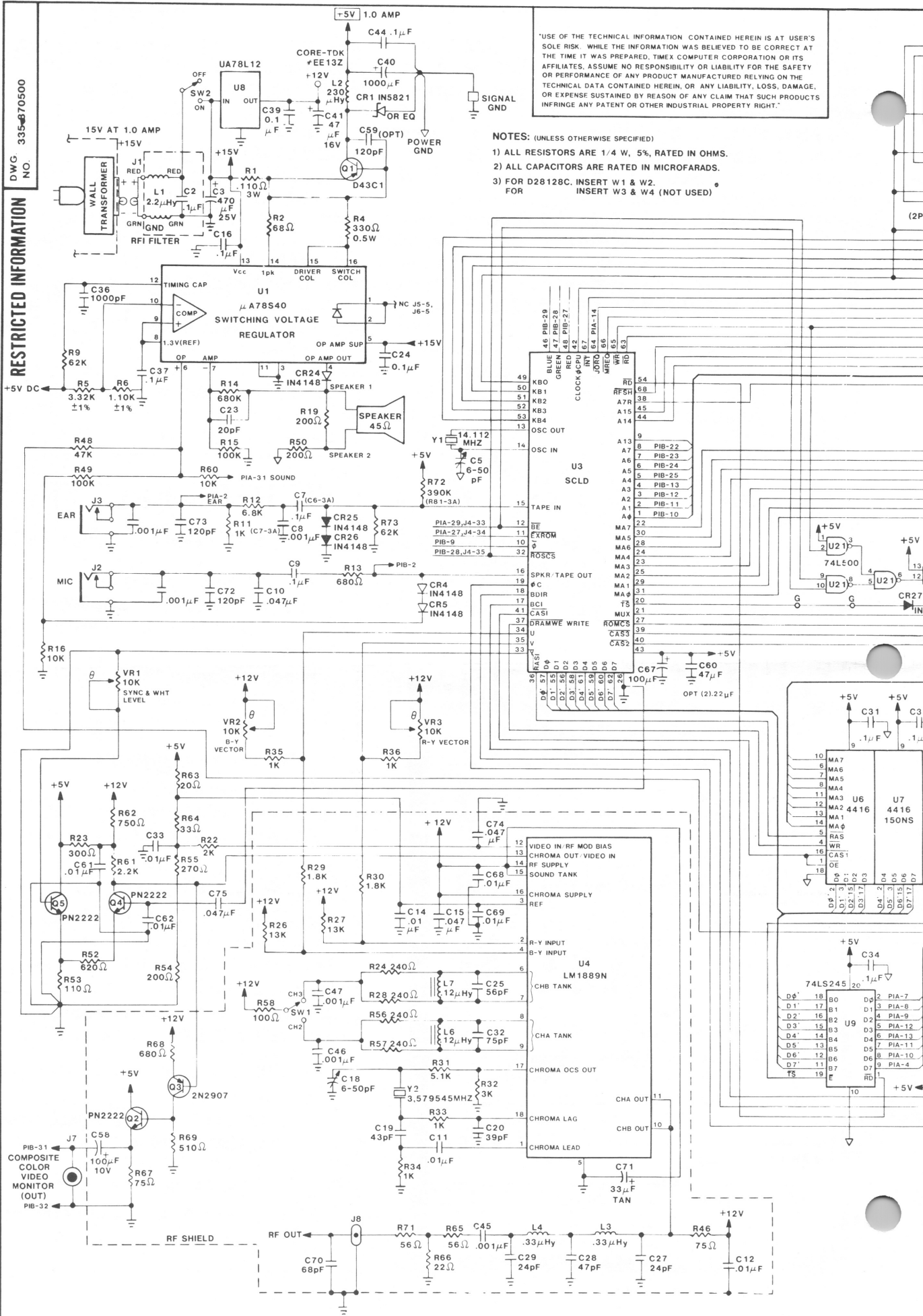
In this column, we will list the regional user groups in Florida. If you have a users group here, please drop us a line so we can include your meeting times and highlights of your last meeting.

TUG: Gainesville, FL. Meets the third Wednesday of each month at 3708 Newberry Rd (State Road 26) Gainesville, FL 32607. Call Bill at (904) 373-6796 for details. Facilities are provided to bring your system and show it off.

LAST MEETING: On display was the TMK color monitor/TV combination. We compared its picture quality to a BMC green screen monitor which K-Mart was selling for \$85.00. Both monitors had very clear displays with the monochrome having the edge. The color made the other more desirable though. We also had an Olivetti ink jet printer connected to a 2068 with an Aerco interface. The printer is lightning fast and very quiet. A catalog mail order service known as DAK was selling these printers off at \$200 a shot. A very good deal. Richard Cravy showed off his new program called "Horace Goes Skiing", one of three available in the Horace series.

NEXT MEETING: Our next meeting will be the 2nd anniversary of our Timex Users Group. We are all expecting to have a good time.

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- 1) ALL RESISTORS ARE 1/4 W, 5%, RATED IN OHMS.
 - 2) ALL CAPACITORS ARE RATED IN MICROFARADS.
 - 3) FOR D28128C, INSERT W1 & W2.
FOR D28128C, INSERT W3 & W4 (NOT USED)

Expanding UDG's

Have you thought that when you wanted to print a pattern using user defined graphics on the screen that you were limited to placing that pattern on the screen in multiples of the pixel dimensions (8x8) of the character? True in the horizontal, but in the vertical dimension, the tyranny of the character can be overcome as illustrated by this little program called "EXP II".

EXP II pokes the value of the UDG start address for the user defined graphics table. The program scrolls the pixel patterns of the USR graphics. By printing characters that are next to each other in the character set on top of each other on the screen, the graphic character changes position a pixel at a time. This allows smoother movement of graphics on the screen.

The graphic character can be any number of characters high. For a pattern that is more than one character in width, a buffer or blank character is placed between the series of characters that are printed on top of each other. Notice the setup of the characters in EXP II. The small duplicate listing is to show which UDG characters are used in the print statements. This was made by listing line 8200 and then in direct mode, print to the screen and then COPY.

I hope that you find EXP's principle useful in developing your own moving graphics programs. This one had me scratching my head for days, but every time I thought about it, it became more beautiful.

One other thing this opens up is that you can also have more than one user defined character set. The UDG's initialize at memory location 65368 and occupy 168 bytes (21x8). Another set could be stored 168 bytes below this starting at 65201. These starting addresses are stored at 23675 and 23676. Initially 23675 holds 88 and 23676 holds 255 (255*256+88=65368) for starting address

65201, POKE 23675 with 177 and 23676 with 254 (254*256+177=65201). To utilize this, all you have to do is keep track of which UDG set you are working with when defining the sets and when you print them. You can make as many UDG sets as you have memory for.

--John Monkus

```
8200 PRINT AT 6,16: OVER 1:"ADG"
8210 PRINT AT 7,16:"BEH": IF Y<65359 THEN
8220 PRINT AT 6,19: OVER 1:"J":AT 7,1
8230 "K"
8240 IF Y<65368 AND Y>65335 THEN
8250 PRINT AT 6,16: OVER 1:"CFI"
8260 IF Y<65368 AND Y>65335 THEN
8270 PRINT AT 6,19: OVER 1:"L"
8280 RETURN
```

These lines are to be entered first since they identify which characters are UDGs in their graphics mode.

```
10 REM EXP II
20 REM 8-27-84 BY J. Monkus
30 BEEP .25,15
40 STOP
50 CLS
60 LET X=0: LET Y=65368+X: GO
70 SUB 9550: GO SUB 8200
80 PRINT AT 6,14: OVER 1:"X)"
90 AT 7,14:" "
100 IF INKEY#="D" THEN GO SUB 8
110 LET X=-1: GO SUB 9550: GO 8
120 SUB 8200
130 IF INKEY#="U" THEN GO SUB 8
140 LET X=1: GO SUB 9550: GO 8
150 SUB 8200
160 IF INKEY#="9" THEN GO TO 99
170
180 PRINT AT 20,6:"X" 78 Y
190 PRINT AT 21,6:"ABCDEFGHIJKL
200 PRINT AT 22,6:"PQRSTU"
210 GO TO 3050
220 PRINT AT 6,16: OVER 1:" "
230 PRINT AT 7,16:" " : IF Y<65359 THEN
240 PRINT AT 6,19: OVER 1:" " :AT 7,1
250 " "
260 IF Y<65368 AND Y>65335 THEN
270 PRINT AT 6,16: OVER 1:" "
280 IF Y<65368 AND Y>65335 THEN
290 PRINT AT 6,19: OVER 1:" "
300 RETURN
310 STOP
320 POKE 23658,8: RESTORE
330 FOR J=144 TO 154: FOR I=0 T
340 7: READ C: POKE USR CHR# J+I,C
350 NEXT I: NEXT J
360 DATA 0,0,0,0,1,2,4,8
370 DATA 0,12,10,0,4,2,1,0
380 DATA 0,0,0,0,0,0,0,0
390 DATA 0,0,0,BIN 00111100,BIN
400 11000011,0,0,0
410 DATA 0,0,0,BIN 11000011,BIN
420 00111100,0,BIN 11000011,BIN 001
430 11100
440 DATA 0,0,0,0,0,0,0,0
450 DATA 0,0,0,0,128,84,32,16
460 DATA 16,48,80,144,32,84,128
470
480 DATA 0,0,0,0,0,0,0,0
490 DATA 0,0,0,0,0,0,0,0
500 DATA 0,0,0,0,0,0,0,0
510 GO TO 3000
```

```

005500 PRINT PEEK 23675+256*PEEK 2
005670
005800 STOP
005900 LET Y=Y+X: POKE 23675,Y-256
006000 *INT (Y/256): POKE 23676,INT (Y/
006100 )
006270 RETURN
006300 STOP
006400 SAVE "EXP II" LINE 9000: VE
006500 RIFY "EXP II"

```



This should appear on your screen when the program begins to run. This also allows you to see that, when entering the program, Graphic A/Graphic D/Graphic G yields the little design reproduced on line 8040 of the program.

Horace...At Last!

A common complaint in the microcomputer field is that those who make the hardware don't know how to write the software. This adage has largely been confirmed by Timex, whose software for the 1000/1500 series seldom came up to the same quality level as packages from independent suppliers. This same problem has also been evident with the 2068 software.

But at last I have gotten my hands on three programs that really can make you glad you left your Atari 2600 behind. They are the "Horace" games Timex made available for the 2068 shortly before they left the market but which many dealers never stocked. I was able to purchase mine from Games To Learn By (address at end of article) at very reasonable prices.

Horace, long popular with Spectrum owners in England, is almost unknown here. Horace somewhat resembles one of the ghosts in the Pac-Man game with legs. But the programmers have done far more with him than the ghosts have ever done.

HUNGRY HORACE apparently is the oldest of the three games and is the simplest. It operates much like Pac-Man but has more challenge than the other 2068 maze type games I've

seen. It's entertaining but is not my favorite. However, my 3 children (ages 13, 11, & 9) play it the most.

HORACE GOES SKIING opens with a screen in which Horace must cross an 8 lane busy freeway to rent his skis and then return. This is similar to part of the popular Frogger arcade game. After procuring his skis, he begins to ski, avoiding trees which will break his skis (requiring another trip across the freeway) and trying to slalom back and forth through the flags to score points.



If he can pass under the finish banner at the bottom he scores additional points. Finishing one slope means crossing the freeway again to get to the next slope. This is my favorite. The sound, movement, graphics detail and sheer challenge are great. I brought this one along to our last users group meeting and everyone was taken with it!

HORACE AND THE SPIDERS is the most complicated and most challenging. Three screens are presented. In the first Horace must cross a large open space while jumping over a spider and then climbing a small hill. This immediately switches Horace to a scene in which he must cross a canyon by swinging from one spider web rope to another while the spiders overhead are busily pulling the ropes up (here's where I fail). Crossing the canyon he enters a black forest with spiders and webs everywhere. Horace is to set about stomping holes in the webs and then pouncing on the spiders which come to repair them. They are destroyed if he can step on them and make them fall through the holes to the ground below. Since I have never gotten past this part, I'm not sure what comes next. Again, great graphics

and sound with a refreshing change in theme from the Pac-Man and Space Invaders fare.

Though I primarily use my 2068 for its educational value and for word processing, Horace does have his place at my home. Buy at least one and see if you don't agree.

-- Richard Cravy

VENDOR REPORTS

There are a number of reasons for the existence of magazines and newsletters supporting specific computer brands such as the Timex/Sinclair machines. One of the major reasons, from my point of view, is the interface such publications provide between users of the computers and those companies which produce hardware or software for the machines. We want to provide such a service through the pages of SUM by providing space for advertisers to promote their products and by providing columns which review products. In addition we are instituting this column, GOTO, as a place where brief mention can be made of products and suppliers which you, as readers, may contact for more information.

Be considerate and try to enclose at least a stamp or two when requesting a catalog. Some suppliers are reporting sending out up to 100 catalogs or fliers for each 1 sale they make. Let's help them out by paying our own way.

FAST LOADING FOR TS1000 and TS1500 is provided by the stringy floppy drive available from A & J Microdrive. Designed just for the smaller Timex computers, the unit loads up to 30 times faster than a regular cassette tape recorder, is highly reliable and stores up to 127 files and 70K per tape. A starter kit is \$169.50 + shipping. A & J Microdrive, 1050 "I" East Duane Avenue, Sunnyvale, CA 94086. 408/732-9292.

ORIGINAL TIMEX HARDWARE/SOFTWARE is available at discount prices from

GAMES TO LEARN BY. Their catalog lists Timex computers, games, and other Timex software as well as various utilities and other products available for the Timex machines. Marty Warner-Dubay is a former employee of Timex's software development department; she received her pink slip the same day Timex got out of the business. Games To Learn By, P.O. Box 78, Collinsville, CT 06022. 203/673-7089.

FILING SYSTEM and database management is available from Thomas Woods. ZX Pro/file (for 1000/1500) and Pro/file 2068 are considered by many

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Note: 2068 versions are more than just "uploads", but are remakes containing full color and sound.

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